WHAT IS CLAIMED IS:

1. A light collection system comprising:

means for collecting light, said means having a plurality of surfaces; and

a plurality of light sources positioned to direct light toward said means for collecting light;

wherein said surfaces direct light from said light sources in a direction towards a target area.

2. The system of claim 1 wherein a light source directs light through the means for collecting light, said light exiting through a top surface of the means for collecting light having a truncated pyramid shape.

3. The system of claim 1 further comprising a housing for positioning said light sources to direct light toward the means for collecting light.

4. The system of claim 1 wherein said light sources comprise a panel of LEDs.

5. The system of claim 1 wherein said light sources comprise a panel of LEDs projecting white light.

6. The system of claim 1 wherein said light sources comprise a panel of LEDs and a plurality of parabolic concentrators positioned to direct light from the LEDs towards the light collector.

7. The system of claim 1 wherein the light sources are selected from: an LED capable of between about 1-5 watts at 1 amp.

8. The system of claim 1 wherein the light sources are selected from: an LED capable of at least 80 lumens at 1 amp and 3 watts.

9. The system of claim 1 wherein the light sources are selected from: an LED capable of at least 120 lumens at 1 amp and 5 watts.

10. The system of claim 1 wherein surfaces of the light collector have a thin film selected from the following materials to optimize performance: silicon oxide.

11. The system of claim 1 wherein said light collector includes optical coatings to create a consistent set of indices of refraction.

12. The system of claim 1 wherein substantially all optical elements include optical coatings to create a consistent set of indices of refraction.

13. The system of claim 1 further comprising an image panel, wherein said light collector is used to direct the light toward the image panel.

14. The system of claim 1 wherein said light collector is hollow.

15. The system of claim 1 wherein said light collector is made of a material selected from: aluminum, glass, a reflective polymer, or reflective metal.

16. The system of claim 1 further comprising an LCD panel having a greater than 9" diagonal, with a resolution at least equal to that of HDTV, wherein said light collector is used to direct the light toward the LCD panel.

17. The system of claim 1 wherein:
a first of said surfaces reflects light from a first of said light sources;
a second of said surfaces reflects light from a second of said light sources;
a third of said surfaces reflects light from a third of said light sources;
a fourth of said surfaces reflects light from a fourth of said light sources;

18. An image projection system comprising:
a light collection device; and
a plurality of light sources positioned to direct light toward said collection device;
a first fresnel lens positioned to concentrate and focus the output light toward the light collection device;
a second fresnel lens;
an image panel, wherein the second fresnel lens is positioned to disperse the light in such a manner as to provide substantially uniform light on the image panel.

19. The system of claim 18 wherein the image panel comprises an LCD panel.

20. The system of claim 18 wherein the image panel comprises an LCD panel having a diameter greater than 9 inches.

21. The system of claim 18 further comprising an optical train for projecting image from the image panel onto a target area.

22. The system of claim 18 further comprising a parabolic rectangular concentrator focusing light from the light sources to the first fresnel lens, said concentrator has unique formulas to produce high light output of about 95% at small angles of no more than about 3 degrees.

23. The system of claim 18 further comprising a polarizing recombiner is used to increase the brightness of the image, said recombiner receiving light from the second fresnel lens;

wherein said polarization recombiner is configured to allow light having a first polarization to pass;

wherein said polarization recombiner is configured to convert light of a second polarization to light having the first polarization and letting converted light pass to the image panel.

24. The system of claim 18 further comprising a polarizing recombiner is used to increase the brightness of the image, said recombiner receiving light from the light collector;

wherein said polarization recombiner is configured to allow light having a first polarization to pass;

wherein said polarization recombiner is configured to convert light of a second polarization to light having the first polarization and letting converted light pass to the image panel.

25. A color image projection system comprising a plurality of systems as described in claim 18, one for each color, then recombining output of each of said systems 18 using dichroic mirrors.

26. The system of claim 18 further comprising a projection lens is liquid filled for low manufacturing cost and very high performance.

27. The system of claim 18 further comprising a projector housing containing the light collection device, the plurality of light sources, the lenses, and an image panel.

28. A light collection system comprising:

means for collecting light; and

a plurality of light sources positioned to direct light toward said collection device;

wherein said means for collecting light directs light from the light sources in a direction towards a target area.

29. A projection system comprising:

a light source;

a polarization device positioned to receive light from said light source; and

an LCD image panel receiving light from the polarization device;

wherein said polarization device is configured to allow light having a first polarization to pass;

wherein said polarization device is configured to convert light of a second polarization to light having the first polarization and letting converted light pass to the LCD image panel.

30. The system of claim 29 wherein the polarization device comprises a ½ wave plate for converting light of a second polarization to light having the first polarization.

31. A projection system comprising:

a first module having:

a light collection device; and

a plurality of light sources positioned to direct light toward said collection device, said light sources projecting light of a single color;

a first fresnel lens positioned to concentrate and focus the output light toward the light collection device;

a second module having the same elements of the first module, wherein said light sources project a second color;

a third module having the same elements of the first module, wherein said light sources project a third color;

a first dichroic directing light from the first module with light from the second module;

a second dichroic directing light from the third array with light from the second module;

a polarization device positioned to receive light from said first dichroic and second dichroic; and

an LCD image panel receiving light from the polarization device;

wherein said polarization device is configured to allow light having a first polarization to pass;

wherein said polarization device is configured to convert light of a second polarization to light having the first polarization and letting converted light pass to the LCD image panel.

32. An image projection system comprising:

a light collection device; and

a plurality of light sources positioned to direct light toward said collection device;

an image panel, wherein a fresnel lens is positioned to disperse the light in such a manner as to provide light on the image panel;

wherein any portion of the image panel absorbs no more than about 4 watts per square inch from light directed at the panel.

33. The system of claim 32 wherein any portion of the image panel absorbs no more than about 3 watts per square inch from light directed at the panel.

34. The system of claim 32 wherein wherein any portion of the image panel absorbs no more than about 2 watts per square inch from light directed at the panel.

35. The system of claim 32 wherein any portion of the image panel absorbs no more than about 1 watts per square inch from light directed at the panel.

36. The system of claim 32 wherein any portion of the image panel absorbs no more than about 0.29 watts per square inch from light directed at the panel.

37. A method for projecting an image, the method comprising:

providing a plurality of light sources;

collimating light using a parabolic concentrator;

directing light from a plurality of light sources towards a light collector which directs light towards a fresnel lens which directs light to a polarizing recombiner;

using the recombiner to allow light having a first polarization to pass;

using the recombiner to convert light of a second polarization to light having the first polarization and letting converted light pass to an LCD image panel.

38. A method of manufacturing an image projector, the method comprising:

providing a plurality of light sources;

coupling said light sources to a parabolic concentrator;

positioning a light collector to receive light from a plurality of light sources, wherein the light collector is also postioned to direct light towards a fresnel lens which directs light to a polarizing recombiner;

providing a polarization recombiner wherein using the recombiner allows light having a first polarization to pass; and

wherein using the recombiner converts light of a second polarization to light having the first polarization and letting converted light pass to an LCD image panel.